Permits

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Field Operations Section

SEP 22 1975

Environmental Protection Agency
State of Illinois

JRL

file

M E M O R A N D U M

TO: DIVISION OF WATER POLLUTION CONTROL - Field Operations Section

FROM: Larry L. Bishop - Region V

SUBJECT: PERRY COUNTY - Fidelity #11
Freeman United Coal Mining Co.
Mine Drainage

DATE: July 30, 1975

On the above date, I made an investigation of the Fidelity Mine #11 located approximately four miles west of DuQuoin. During the investigation, I was accompanied by Mr. Paul Seastrom of the Reclamation Department. Any drainage from the Fidelity Mine is tributary to Beaucoup Creek in the Big Muddy Watershed.

The Fidelity Mine #11 is operating under a Chapter III and Chapter IV Illinois Environmental Protection Agency permit. The Chapter III permit is #1973-EA-13-OP. This permit is both Part I and Part II for construction, discharge and operating a facility. The Chapter IV permit is #1973-MD-8-OP, for operating a coal mine facility. The slurry disposal from the preparation plant is confined in abandoned cuts and ramps. The refuse generated from this preparation plant is deposited in the active pit. During wet weather conditions, the refuse is deposted in an abandoned incline and covered. Three discharges are listed on the Chapter III permit which includes any drainage from the mine property. The discharges listed are in Beaucoup Creek, Panther Creek and the Barbara Outlet. Since the NPDES permits have come into effect, the Beaucoup Creek discharge has been changed and the three discharge points are now the Panther Creek discharge, the Barbara Outler, tributary to Beaucoup Creek and the third point is identified as the Lake-of-the-Pines discharge.

NPDES permits have been issued for the three mine discharges. Samples are being collected and submitted as required. NPDES Permit #IL 0000 302, became effective on February 20, 1975. This permit is for discharges #001 and #003. Discharge #003 is referred to as the Barbara Outlet and is located next to Barbara's Sawmill. Discharge #001 is reffered to as Lake-of-the-Pines discharge and is located approximately 1/2 mile east of the Barbara discharge. Discharge #004 is the combined discharges from the pit pumpages and is located and referred to as the Panther Creek Discharge. This is located below the west end of the active mine area.

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ENVIRONMENTAL PROTECTION AGENCY
DIV. OF WATER POLLUTION CONTROL
PERMIT SECTION - SPRINGFIELD
STATE OF ILLINOIS

The first sample collected was from the discharge point #004. At this point, the water was clear and fish beds were observed at this location. Flow was estimated to be 1,000 gpm. Laboratory analysis of the sample collected is listed below:

LAB. #A2048

Iron (Total)	0.30 mg/1	pH	7.7
Manganese	0.08 mg/1	Alkalinity	100 mg/1
Sulfate	675 mg/1	Total Acidity	0 mg/1
Suspended Solids	32 mg/1	R.O.E.	1310 mg/1

The second discharge was collected from Sampling Point #003. Again, the flow was estimated to be greater than 1,000 gpm. The water was clear and the stream bed appeared to be normal. Laboratory analysis of the sample collected is listed below:

LAB. #A2049

Iron (Total)	0.25 mg/1	pH	7.6
Manganese	2.65 mg/1	Alkalinity	260 mg/1
Sulfate	2050 mg/1	Total Acidity	0 mg/1
Suspended Solids	14 mg/1	R.O.E.	3780 mg/1

The third discharge sample collected at Point #001 had a flow estimated to be 1,000 gpm. The water was clear and the stream bed appeared to be normal. Laboratory analysis of the sample collected is listed below:

LAB. #A2050

Iron (Total)	0.15 mg/1	pH	7.7
Manganese	0.41 mg/1	Alkalinity	180 mg/1
Sulfate	2030 mg/1	Total Acidity	0 mg/1
Suspended Solids	17 mg/1	R.O.E.	3680 mg/1

During the inspection, Mr. Seastrom stated that refuse is hauled to the alternate refuse disposal site during adverse weather conditions when they could not successfully enter the pit area. A check of the slurry water circuit indicated the clay retaining dam around this location appeared to be adequate and the facility seemed to be functioning properly. The slurry level had not reached the overflow mark at this time.

Following the inspection of the refuse and slurry disposal sites, the investigation was concluded.

Larry L. Bishop

Larry L. Bishop
Environmental Protection Specialist

LLB:mg
9/18/75

(1)

SPECIAL ANALYSIS FORM

Time Collected 1:30 P.M. Sub-Basin [illegible]

Date Collected July 30 1975 Collector [illegible]

Facility Name: Facility Number: File Town

Facility #11 [illegible] County

Stream Name(s) Stream Code:

[illegible]

Source of Sample: (Exact Location) [illegible]

Physical Observations, Remarks: [illegible]

Flow ~[illegible] gpm	Field Dissolved Oxygen	Field pH	Field Temp.

	Arsenic		Coliform/100ml		BOD
	Barium		Fecal Coliform 100 ml		COD
	Boron		Fecal Strep 100 ml	R.O.K. ☆	TS/EC
	Cadmium		Algae (Total) /ml	32 see note below	Susp.Solids
	Copper		Ammonia (N)		Vol.Susp.Solids
	Chromium (tri)		Organic Nitrogen (N)	~~[illegible]~~	pH (units)
	Chromium (hex)		Nitrate + Nitrite(N)		Turbidity (JTU)
0.30	Iron (Total)		Phosphorus (P)		Hardness
	Iron (Dissolved)		Chloride	100	Alkalinity
	Lead		Fluoride	0	Total Acidity
0.08	Manganese	675	Sulfate		Free Acidity
	Mercury (ppb)		Cyanide		Oil
	Nickel		MBAS	1310 ☆ R.O.K.	Other (Specify)
	Selenium		Phenol (ppb)		
	Silver				
	Zinc				

Results in mg/l unless otherwise noted.

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Transported by: [illegible]

Received by: [illegible]

Transported by: [illegible]

Received by:

FOR LAB USE ONLY

Lab Number: A 2043 Rec'd by: M Clark

Date sample rec'd: AUG 1 Time: 9:15

Date analysis completed AUG 8 1975

Date results forwarded AUG 8 1975

Total Tests requested: 8 Tests run: 9

Lab Section [illegible] Supervisor [illegible]

173 Suspended solids run on unrefrigerated sample

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SPECIAL ANALYSIS FORM

ime Collected 9:30 AM   Sub-Basin Pelican

ate Collected 7-18-30-75   Collector Larry L. Briscoe

acility Name: Fidelity #11   Facility Number: File Town Perry County

tream Name(s) Big Muddy Drainage   Stream Code: NCE

ource of Sample: (Exact Location) 003 (Bottom Outlet)

ysical Observations, Remarks: Water clear, but ...

low 7.15	Field Dissolved Oxygen	Field pH	Field Temp.

	Arsenic		Coliform/100ml		BOD
	Barium		Fecal Coliform 100 ml		COD
	Boron		Fecal Strep 100 ml	R.O.K. *	TS/EC
	Cadmium		Algae (Total) /ml	14 ~~See note below~~	Susp.Solids
	Copper		Ammonia (N)		Vol.Susp.Solids
	Chromium (tri)		Organic Nitrogen (N)	~~7.1~~ 7.9	pH (units)
	Chromium (hex)		Nitrate + Nitrite(N)		Turbidity (JTU)
0.25	Iron (Total)		Phosphorus (P)		Hardness
	Iron (Dissolved)		Chloride	260 ~~0~~	Alkalinity
	Lead		Fluoride	0 ~~100~~	Total Acidity
2.65	Manganese	2050	Sulfate		Free Acidity
	Mercury (ppb)		Cyanide		Oil
	Nickel		MBAS	3780 * R.O.K.	Other (Specify)
	Selenium		Phenol (ppb)		
	Silver				
	Zinc				

esults in mg/l unless
therwise noted.

Transported by:
Received by:
Transported by:
Received by:

FOR LAB USE ONLY
Lab Number: A 2049   Rec'd by: M. Clark
Date sample rec'd: AUG 1 1975   Time: 9:15a
Date analysis completed: AUG 8 1975
Date results forwarded: AUG 8 1975
Total Tests requested: 8   Tests run 7
Lab Section   Supervisor

73 Suspended solids run on unrefrigerated sample

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM

Time Collected: 2:45 P.M. Sub-Basin: [illegible]

Date Collected: [illegible] 75 Collector: [illegible]

Facility Name: [illegible] #1 Facility Number: File Town: [illegible]

Stream Name(s): [illegible] Stream Code: [illegible]

Source of Sample: (Exact Location) [illegible]

Physical Observations, Remarks: [illegible]

Flow [illegible]	Field Dissolved Oxygen	Field pH	Field Temp.

Value	Parameter	Value	Parameter	Value	Parameter
	Arsenic		Coliform/100ml		BOD
	Barium		Fecal Coliform 100 ml		COD
	Boron		Fecal Strep 100 ml	R.O.E. *	TS/EC
	Cadmium		Algae (Total) /ml	17	Susp. Solids
	Copper		Ammonia (N)	~~[illegible]~~	Vol. Susp. Solids
	Chromium (tri)		Organic Nitrogen (N)	~~7.7~~ 3.1	pH (units)
	Chromium (hex)		Nitrate + Nitrite (N)		Turbidity (JTU)
0.15	Iron (Total)		Phosphorus (P)		Hardness
	Iron (Dissolved)		Chloride	180 ~~[illegible]~~	Alkalinity
	Lead		Fluoride	0 ~~[illegible]~~	Total Acidity
0.41	Manganese	2030	Sulfate		Free Acidity
	Mercury (ppb)		Cyanide		Oil
	Nickel		MBAS	3680 *R.O.E.	Other (Specify)
	Selenium		Phenol (ppb)		
	Silver				
	Zinc				

Results in mg/l unless otherwise noted.

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Transported by: [illegible]
Received by: [illegible]
Transported by:
Received by:

FOR LAB USE ONLY
Lab Number: [illegible] Rec'd by: M. Cl[illegible]
Date sample rec'd: [illegible] Time: 9:15
Date analysis completed: AUG 8 1975
Date results forwarded: AUG 8 1975
Total Tests requested: 8 Tests run: [illegible]
Lab Section: [illegible] Supervisor: [illegible]

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